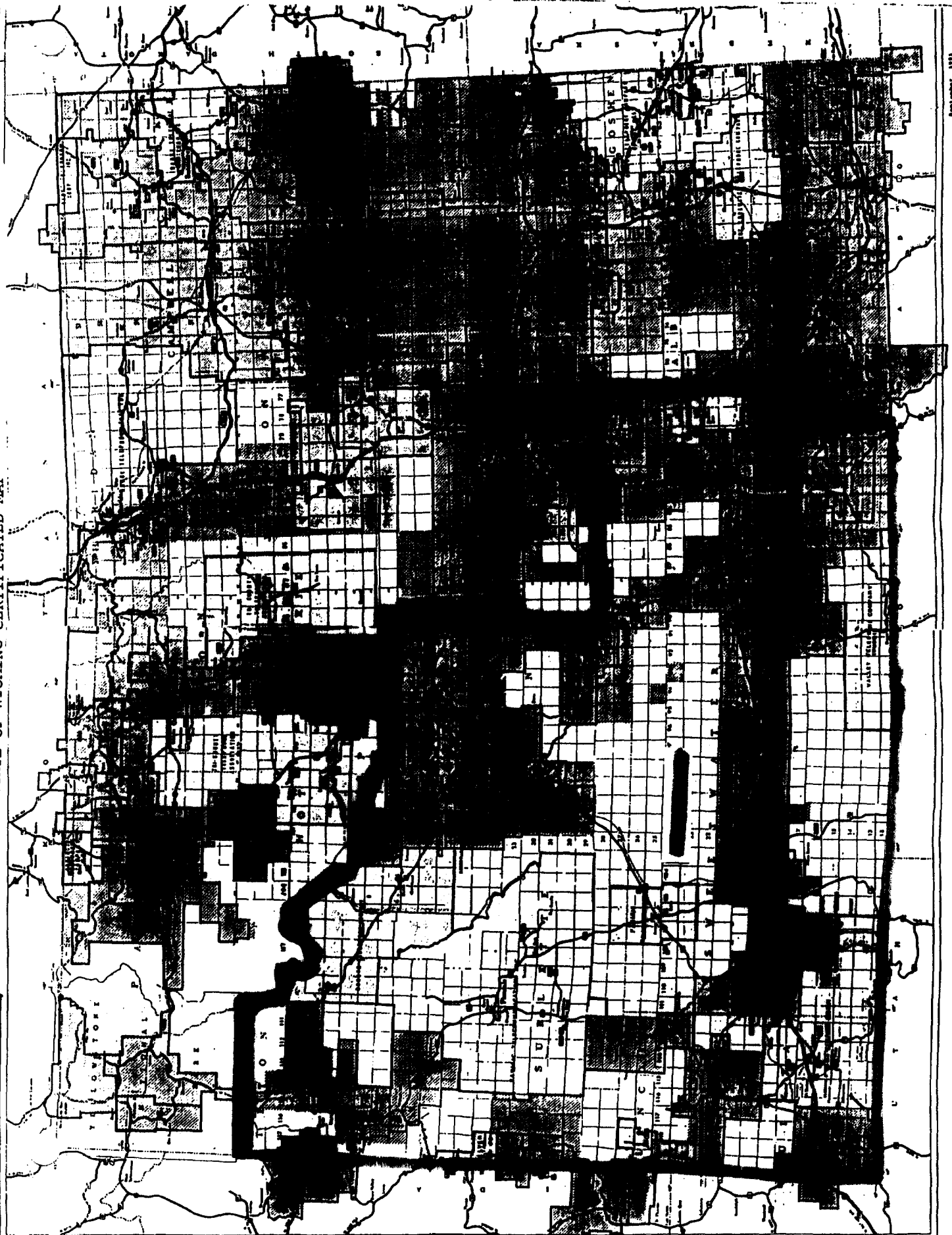


STATE OF WYOMING CERTIFICATED MAP



LEGEND:
S & R EASY CERTIFICATIONS
TEMPERARY CERTIFICATE DATA

September, 1993

WYOMING PUBLIC SERVICE COMMISSION

FCC GENERAL DOCKET 93-252

**OMNIBUS BUDGET RECONCILIATION ACT OF 1993
AMENDMENTS TO THE COMMUNICATIONS ACT OF
1934**

**PETITION TO MAINTAIN EXISTING
REGULATORY OVERSIGHT**

RECEIVED

AUG 10 1994

EXHIBIT #4

FCC MAIL ROOM

PR 94-110

**BEFORE THE
PUBLIC SERVICE COMMISSION OF WYOMING**

IN THE MATTER OF THE INQUIRY)	
OF THE PUBLIC SERVICE COMMISSION)	GENERAL ORDER
INTO TELECOMMUNICATIONS SERVICE)	NO. 67
CAPABILITIES AND NEEDS IN WYOMING)	

**INITIAL REPORT ON
TELECOMMUNICATIONS SERVICE IN WYOMING
WITH A VIEW TOWARD TOMORROW**

RECEIVED

AUG 10 1994

CC MAIL ROOM

Issued on September 24, 1993

I. Introduction

Between May 3 and August 20, 1993, the Public Service Commission (Commission) held a series of 23 hearings throughout Wyoming on the subject of telecommunications service wants, needs and capabilities. This report is a result of those hearings.

Because of the rapid advances in technology and changes in industry structure which the telecommunications industry has experienced in the last decade, and because these changes offer a greatly increased range of potential service offerings for the people and economy of Wyoming, and because Wyoming's communications needs are changing, and because U S WEST Communications, Inc., (U S WEST), has not provided definite, reasonable timetables for needed service and facility upgrades as directed by the Commission, and to respond to expressions of dissatisfaction with service quality by members of the public, the Commission determined that it was vital to hold these informational hearings throughout Wyoming to inquire into the needs and desires of the public for basic, more complex and advanced telecommunications and related services.

A clear picture of the condition of Wyoming's telecommunications infrastructure emerged from these proceedings. The Commission has found that, in general, Wyoming's independent telephone companies have made a sincere and largely successful move to modern digital basic service that is widely available and generally acceptable to the public (which does not imply that these companies no longer continue to experience individual customer service problems). We have not found the same situation with U S WEST the state's largest service provider. Many U S WEST exchanges provide only the simplest services through older plant and electromechanical switches which are outmoded, often unreliable and sometimes loaded to such an extent that there is little allowance for growth. In some cases, no service is available. We have found the plans of U S WEST to deal with these and other problems addressed below largely inadequate. All of these conclusions are discussed in more detail below.

To gain the greatest amount of information and encourage the widest participation, the Commission structured the proceedings to be informational and not adversarial or confrontational in nature. Each hearing began with a short factual presentation by the Commission staff about existing facilities and rates. This was followed first by required presentations by the serving local exchange telephone companies and then by comments from members of the public.

The local serving telephone utilities were required to produce information on a number of subjects, including:

- a. existing equipment and services in the particular service territory, including services and enhancements which could be provided with existing equipment;

- b. the utility's definition of modern basic service;
- c. its definition of service quality;
- d. features and services which could be provided with the facilities which the company uses now or plans to use;
- e. upgrading and modernization plans (in the service territory and company-wide), including such things as replacement of multiparty services, replacement of mechanical switches, problem and "held order" (company unable to provide requested new service), planned service options (such as Extended Area Service (EAS)) and service enhancements (such as Enhanced 911 service);
- f. other possible service enhancements and upgrades not included in the company's modernization plans;
- g. planned facilities expenditures and expenses for upgrading customer loops, switching facilities and interoffice plant;
- h. estimated monthly increases in local telephone bills for the upgrades and enhancements discussed;
- i. estimated completion times for modernization programs;
- j. other pertinent cost information, including any savings which could be realized through modernization and technological facilities upgrades; and
- k. what savings and advantages could be gained through cooperation among telecommunications utilities or among telecommunications companies, other utilities and business entities with respect to such things as remote metering, security services, automated computerized home or business services, educational services, medical services, interactive and compressed video, shop- and bank-at-home services, telecommuting and similar activities.

The Commission asked the companies to address in their presentations a broad spectrum of customers, including, residential, retired, disabled, general businesses, high-tech businesses and customers with other special needs. Because telecommunications is a highly technical field, the utilities were required to make their presentations in non-technical language easily understandable to members of the public not experienced in telecommunications operations or utility regulation. All cost details were required to be easily comparable and expressed in unadjusted 1993 dollars.

The Commission asked members of the public to be prepared to tell the Commission about needed and wanted telecommunications services, including

perceptions of what is "basic" service and what enhanced services would be useful. Suggestions about remedying existing service problems or limitations were also solicited.

II. Procedural Matters

The Commission's authority to proceed in this matter is found at W.S. §§ 37-2-112, 37-2-117, 37-2-119, 37-2-122, 37-2-201, and 37-3-112, and in the Commission's Rules at Sections 115, 236, and Chapter V thereof, generally. In addition, the Commission's general regulatory mandate requires it to give paramount consideration to the public interest. *Mountain Fuel Supply v. Wyoming Public Service Commission*, 662 P.2d 878, 883 (Wyoming Supreme Court, 1983), and cases cited.

The Commission planned and set a series of twenty-three hearings during the late Spring and Summer of 1993. The locations chosen were Afton, Casper, Cheyenne, Cody, Douglas, Dubois, Evanston, Gillette, Green River, Jackson, Kemmerer, Laramie, Lusk, Newcastle, Pine Bluffs, Pinedale, Rawlins, Riverton, Sheridan, Sundance, Torrington, Wheatland, Worland. The objective in choosing these sites was to provide convenient public hearings throughout the state while using Commission resources efficiently. The public hearings were grouped into phases to allow for the most efficient travel. The dates, local exchange companies and relevant exchanges for each hearing are listed below.

Phase I

May 3, 1993, Laramie, concerning service by U S WEST to the exchanges at Laramie and Rock River and by Telephone Utilities of Wyoming, Inc. (Pacific Telecommunications, Inc. (PTI)) (TU of Wyoming) at Medicine Bow.

May 4, 1993, Rawlins, concerning service by U S WEST to the exchanges at Rawlins, Hanna-Elk Mountain, Saratoga, Encampment and Shirley Basin and by Dubois Telephone Exchange, Inc, d/b/a Valley Telephone Company (Valley Telephone) at Baggs.

May 5, 1993, Green River, concerning service by U S WEST to the exchanges at Green River and Rock Springs and by TU of Wyoming at Eden and Farson.

May 6, 1993, Evanston, concerning service by U S WEST to the exchange at Evanston and by Union Telephone Company (Union Telephone) at Mountain View and Lyman.

Phase II

May 24, 1993, Wheatland, concerning service by U S WEST to the exchanges at Wheatland and Glendo and by The Chugwater Telephone Company (Chugwater

Telephone) to the exchange at Chugwater.

May 25, 1993, **Douglas**, concerning service by U S WEST to the exchanges at Douglas and Glenrock.

May 26, 1993, **Lusk**, concerning service by U S WEST to the exchange at Lusk and by Golden West Telephone Cooperative, Inc. (Golden West) to its Edgemont exchange customers in Wyoming.

May 27, 1993, **Torrington**, concerning service by United Telephone Company of the West (United Telephone Company) to the exchanges at Torrington, Lingle, LaGrange and Guernsey.

May 28, 1993, **Pine Bluffs**, concerning service by U S WEST to the exchanges at Pine Bluffs, Burns, Albin and Carpenter.

Phase III

June 21, 1993, **Casper**, concerning service by U S WEST to the exchanges at Casper and Midwest.

June 22, 1993, **Riverton**, concerning service by U S WEST to the exchanges at Riverton, Lander, Shoshoni, Gas Hills and Jeffrey City.

June 23, 1993, **Worland**, concerning service by U S WEST to the exchanges at Worland, Thermopolis, Basin and Greybull and by Tri County Telephone Association, Inc. (Tri County Telephone) to the exchanges at Hamilton Dome, Ten Sleep and Hyattville (concurrent hearing).

June 23, 1993, **Dubois**, concerning service by Dubois Telephone Exchange, Inc. (Dubois Telephone) to the exchanges at Dubois and Crowheart (concurrent hearing).

June 24, 1993, **Cody**, concerning service by U S WEST to the exchanges at Cody, Powell, Meeteetse, Lovell and Frannie, by Tri County Telephone to the exchange at Burlington, and by Project Telephone Company (Project Telephone) to the Wyoming customers of the Clark-Belfry exchange.

Phase IV

July 13, 1993, **Kemmerer**, concerning service by U S WEST to the exchanges at Kemmerer and LaBarge and by All West Communications, Inc. (All West Communications) to the exchange at Cokeville.

July 14, 1993, **Afton**, concerning service by U S WEST to the exchange at Afton and by Silver Star Telephone Company, Inc. (Silver Star) to the exchanges at Freedom and Alpine (concurrent hearing).

July 14, 1993, **Pinedale**, concerning service by TU of Wyoming to the exchanges at Pinedale, Big Piney, Boulder and Daniel (concurrent hearing).

July 15, 1993, **Jackson**, concerning service by U S WEST to the exchanges at Jackson, Moran, Lake, Mammoth, Old Faithful and Alta.

Phase V

August 9, 1993, **Newcastle**, concerning service by U S WEST to the exchanges at Newcastle, Osage and Upton and by Golden West to its Wyoming customers in the Edgemont exchange.

August 10, 1993, **Sundance**, concerning service by U S WEST to the exchanges at Hulett and Moorcroft and by Range Telephone Cooperative (Range Telephone) to the exchange at Sundance and to the Wyoming customers of its Alzada exchange.

August 11, 1993, **Gillette**, concerning service by U S WEST to the exchanges at Gillette and Wright and by Range Telephone to the exchange at Arvada.

August 12, 1993, **Sheridan**, concerning service by U S WEST to the exchanges at Sheridan, Story, Buffalo, Kaycee and Dayton-Ranchester and by Range Telephone to the exchanges at Clearmont, Southeast Sheridan and Decker.

Phase VI

August 20, 1993, **Cheyenne**, concerning service by U S WEST to the exchange at Cheyenne.

The Commission gave public notice of each of the hearings in accordance with the governing law by publishing notices of the individual hearings in the relevant newspapers and through radio announcements on local stations. In addition, the Commission first issued and published, on December 9, 1992, its Notice of State Wide Public Informational Inquiry which formally initiated the General Order No. 67 proceedings. Each of the individual hearing notices and the notice of inquiry were also mailed directly to telecommunications companies operating in Wyoming and to others known to be interested in Wyoming telecommunications service, including legislators, industry and interest groups, municipal and county government officials and others. Each hearing was held as noticed, and transcripts of each hearing were prepared for future use and reference.

To help with specific problems brought to the hearings by members of the public, the Commission required each telephone company to have present throughout the hearing representatives capable of discussing and, if possible, resolving specific customer complaints presented at the hearing. The Commission also required each company to provide specific informational handouts for the

public at the hearing giving a summary of the company presentations.

To maximize public participation, the hearings were structured as informational rather than contested proceedings. The Commission required no filings as a prerequisite to attendance or participation by the public, including the propounding of questions to the utilities. In addition, since a principal purpose of this proceeding was to obtain the greatest public participation, letters and other written materials from the public were also considered in the formulation of this report.

The Commission wishes to extend its special thanks to KASL Radio which did a live broadcast of the August 9, 1993, hearing in Newcastle and thereby helped to increase the interest and information of the public.

Note on Appendices

Attached to this report are four appendices which are a part of the report and which provide further information useful in understanding telecommunications in Wyoming.

Appendix A contains an exchange-by-exchange description of plant and service capabilities for the entire state, including summaries of the public comments offered at the General Order No. 67 hearings. It contains brief summaries of the concerns, problems and needs of members of the public who participated in the hearings. For complete texts of each comment, please see the hearing transcripts kept at the Commission's offices.

Appendix B is a compilation of exchange data for all of the exchanges served by U S WEST.

Appendix C is a compilation of exchange data for all of the exchanges served by Wyoming's independent telephone companies.

Appendix D contains a glossary which defines a number of technical terms commonly used in the telecommunications industry. It is a useful reference for readers of this report and those reviewing the transcripts of the General Order No. 67 public hearings.

III. Issues and Insights

General Observations

In conducting the twenty-three hearings, reviewing the twenty-three transcripts and numerous late-filed exhibits required at the hearings and reviewing

a number of written submissions offered by concerned telecommunications subscribers in Wyoming, the Commission identified a number of major recurring issues. Those issues are discussed individually below.

The Most Common Service Problem

It is not surprising that many of those attending and commenting at the public hearings and many who filed written material were governmental officials, business leaders, libraries, small businesses, schools, and large use customers who must contend with telephone exchanges where outmoded, obsolete electromechanical crossbar or step-by-step switches and outmoded outside plant (field) facilities are still being used to provide simple telephone service. Such outmoded telecommunications equipment normally has a very long operating life and some of it has been in place as long as 40 years. Some of these durable but technologically antiquated facilities are still at work in Wyoming. See Appendices A, B and C for more information about those exchanges still served by such equipment.

Such equipment can accommodate some newly available state-of-the-art customer-owned equipment but only if a great deal of frequent, labor-intensive and costly -- but not cost effective -- maintenance is expended in keeping it at peak operating levels. Even with such expensive work, this plant interfaces with modern equipment at an unacceptably slow and unpredictable reaction level. It also often falls prey to adverse weather conditions common in Wyoming and to the spotty availability of spare parts. All participating telephone utilities acknowledged that these electromechanical switches and older outside plant facilities were not designed or manufactured to handle new technologies, and that this obsolete equipment should have been replaced many years ago with electronic equipment and facilities with sophisticated computerized digital capabilities.

The utilities' information shows that because the average cost to serve each Wyoming customer is among the very highest in the nation, due, in part, to the low population density and large size of our state, some utilities delayed upgrading in the most sparsely populated parts of the state, opting instead to make substantial investments in high technology equipment and service upgrades for higher population areas where the cost per person to serve is much lower. U S WEST, for example, would normally replace a switch when it is at "exhaust" (when it has no more capacity to handle additional subscribers). In smaller communities where growth is slow and electromechanical switch service is only of minimal quality, a modern digital switch is still on the company's far planning horizon because there is still capacity remaining in the old switch. This is unfortunate and unacceptable because, even if the number of subscribers has not grown rapidly, the sophistication of the needs of those subscribers has grown and, in fact, parallels the needs of subscribers in larger urban areas.

Modern Basic Service

The Commission opened the General Order 67 docket in December of 1992 with the expressed intent of determining the current state of Wyoming's telecommunications infrastructure. Of equal importance was the Commission's desire to obtain public input regarding modern basic telecommunications service by comparing the services and quality of service currently available with customer expectations of the services and service quality that should be available. Specifically, the Commission, as regulator of Wyoming's telecommunications providers, sought to elicit comment with regard to telecommunications needs in Wyoming, the extent to which those needs are or are not being currently met, and what those needs will be in the future.

The Commission directed all of Wyoming's local exchange carriers to provide their view of modern basic service. The responses may be summarized as follows:

- o All West Communications defined modern basic service as digitally switched, single party, tone dialing (also known as touch tone) service which is capable of providing voice, data, and other services with a minimum band width of 9.6 kilobits.
- o Chugwater Telephone defined modern basic service as digitally switched, single party service with the availability of unspecified, optional services.
- o Dubois Telephone/Valley Telephone defined modern basic service as single party, tone dialing service which allows basic facsimile and data transmission at a minimum rate of 2400 bits per second.
- o TU of Wyoming defined modern basic service as single party service with tone dialing and custom calling feature capabilities. The Company further stated the following technical standards for modern basic service: (1) transmission loss not greater than -8.5 dB at 1004 HZ, (2) minimum line current > 10 ma, DC across 430 ohms, (3) minimum transmission rate at 2,400 bits per second, (4) noise objective at subscriber NI < 20.0 dBrnc, (5) digital accuracy, (6) dial tone delivery within three [3] seconds for 98% of calls, and (7) equal access and extended area service under specific pre-existing conditions.
- o Golden West did not offer a specific definition of modern basic service. However, Golden West currently offers the following services in the Edgemont exchange: digital switching, tone dialing, Call Waiting, Call Forwarding, Speed Dialing, 3-Way Calling, and all Custom Local Area Signaling Services.

- o Project Telephone did not offer a specific definition of modern basic service. However, the Company currently provides digitally switched, single party service which is capable of providing a variety of enhanced calling features.
- o Range Telephone defined modern basic service as one-party, rotary dial service meeting the following criteria: (1) impedance - 900 ohms, (2) voltage - 12- volts DC maximum, (3) loop current range - 20 to 120 miliamperes, (4) line loss - maximum of 10 dB with no greater than 3 dB roll off within the 300 to 3,000 hertz range, (5) line noise - not to exceed 25 dBnc, (6) loop signaling, and (7) group three [3] facsimile and analog modem baud rates up to 2,400 bits per second.
- o Silver Star defined modern basic service as single party service provided over a digital central office with the availability of optional calling services. Further all interoffice facilities should be digital with buried distribution facilities. Additionally, distribution facilities should have the capacity to transmit data at a 9,600 baud rate and customers should have access to a business office within fifty (50) miles of their service area.
- o Tri-County Telephone Association defined modern basic service as single party service with the availability of customer calling features.
- o Union Telephone did not provide a specific definition of modern basic service. However, the Company currently provides single party, digitally switched service capable of providing a variety of enhanced calling features.
- o United Telephone Company defined modern basic service as digitally switched, digitally interconnected, single party service which utilized tone dialing with equal access and customer calling feature capable.
- o U S WEST defined modern basic service as broad access to the network at affordable rates. The Company further stated that modern basic service is single party, touch tone service with the choice of flat or measured rates, and equal access to interstate long distance carriers using one-plus dialing.

Ultimately, the presentations which were made throughout the course of the General Order 67 proceedings have shown the Commission that major segments of Wyoming's telecommunications infrastructure are antiquated, unacceptable, and

not currently capable of providing Wyoming subscribers with modern basic service as defined by Wyoming's telecommunications providers. This is particularly true in rural areas served by U S WEST. A number of Wyoming exchanges are capable of providing modern basic service, in the context of the definitions listed above. However, the Commission is convinced that service continues to improve in the more advanced exchanges, which continue to receive a disproportionately high level of capital investment, while service remains stagnant or declines even further in those exchanges that are operating under electromechanical technologies which have long been obsolete. In general, information obtained throughout the proceedings tended to show that the Wyoming independent companies have made and are making substantial progress toward achieving an acceptable level of modernization, whereas U S WEST has not.

The Commission is cognizant of the fact that the rate of technological advances in the telecommunications industry is phenomenal. As a result, the Commission is reluctant to adopt of view of modern basic service that may be dated or restrictive. However, the Commission is concerned that representations made by Wyoming's telecommunications providers, particularly U S WEST, have indicated that those exchanges in which service quality is the most deficient are, on the whole, not the subject of upgrade plans within the near or intermediate future.

Wyoming subscribers should reasonably expect more responsiveness to their needs from U S WEST. The status quo is unacceptable to this Commission. The Commission is committed to taking action to insure that a minimum acceptable level of modern basic telephone service is achieved across Wyoming on an expedited basis.

While attempting not to be overly restrictive, the Commission believes that modern basic service is reasonably priced, reliable, high quality, single party service which is digitally switched and digitally interconnected. The Commission also strongly believes that modern basic service should possess the capability of offering custom and enhanced calling features. While Wyoming telecommunications providers may reference pending future technical marvels as justification for further delay in upgrading the worst of Wyoming's telephone exchanges, the Commission believes that this is no excuse for neglecting today's responsibility to provide quality service to Wyoming customers.

Extended Area Service (EAS)

Throughout the General Order 67 hearings, interest was expressed in extended area service by various communities around Wyoming. Extended area service is the provision of toll-free or local calling between communities of interest. Basic service rates increase by an incremental amount to cover the lost toll revenues which result when telecommunications providers institute extended area service. Communities of interest exist where two or more towns are located in close proximity; and, most often, one emerges as a business and service center relied upon

significantly by the residents of the other(s).

Nowhere was interest in extended area service more forcefully and uniformly expressed than in the eastern Laramie County exchanges of Albin, Burns, Carpenter, and Pine Bluffs. On March 8, 1993, Senator Rich Cathcart, representing Wyoming Senate District 6 - Laramie County, submitted a petition signed by 2,202 residents of Laramie County requesting extended area service among the individual eastern Laramie County communities and between those communities and their primary service center, Cheyenne. Extended area service among these communities and between their communities and Cheyenne is viewed as an integral component of modern basic service by the subscribers in eastern Laramie County. The same view was expressed by community leaders in the Green River and Rock Springs area and by many residents of Afton and nearby locations with regard to extended area service covering the entire Star Valley.

While extended area service has obvious benefits, there are detriments associated with its deployment as well. During the course of the General Order 67 proceedings, a representative of AT&T expressed a darker view of extended area service implementation. The potential detriments of extended area service may be summarized as follows:

- o Once extended area service is placed in effect, what was once a potentially competitive toll market becomes a portion of basic exchange service. As a result, customers lose any potential choice of service providers between the EAS area exchanges.
- o Once extended area service is placed in effect, basic exchange rates increase to compensate the telecommunications provider for the loss of toll revenues which results. This leads to a situation in which low volume callers between the effected exchanges subsidize high volume callers.
- o Once extended area service is placed in effect, calling is stimulated between the affected exchanges. This results in intrastate (mostly local) usage within the exchanges increasing relative to interstate usage. This situation can lead to increased local rates as a result of the Federal Communications Commission mandated "separations process" under which telecommunications providers determine the proportion of revenues to be collected from the intrastate and interstate jurisdictions.

AT&T did acknowledge, however, that extended area service implementation is appropriate under certain circumstances such as when communities cannot access emergency service without incurring toll charges. AT&T further stated that extended area service may be appropriate when at least fifty (50) percent of

residential users benefit from extended area service implementation. That is to say, it may be appropriate when no more than fifty (50) percent of affected residential customers are subsidizing the remaining customers.

Inasmuch as the implementation of extended area service requires an increase in basic exchange rates, applicable Wyoming Statutes require public hearings to be held with regard to requests for the service. At such formal contested hearings, all affected parties are given the opportunity to support, object, or otherwise offer comment on the public hearing record. For this reason, the suggestion made by several libraries throughout the state that the Commission do away with long distance charges within counties -- making each county an EAS area -- to encourage increased access to information and data, cannot be ordered in this informational proceeding. The Commission nevertheless remains committed to evaluating extended area service requests between communities of interest. For example, in 1992, the Commission authorized implementation of extended area local calling between Jackson and Moran.

Ultra Modern Service

Throughout the General Order 67 hearings, groups of individuals consistently stated a view of modern basic service which far exceeded the definitions offered by Wyoming's telecommunications providers in this proceeding. For all practical purposes, this type of service is ultra modern and would involve the widespread deployment of Integrated Services Digital Networking, broadband, and other related technologies.

The successful implementation of these technologies would bring ultra high speed data transmission and video capabilities to Wyoming subscribers. It would require, at a minimum, digital switching and digital connectivity. Integrated Services Digital Networking may be provided over relatively short distances (less than 15,000 feet) over existing copper distribution facilities; but longer distances and broadband technologies require fiber optic or coaxial cable distribution facilities.

Educators consistently expressed the need for compressed to full motion, interactive video capabilities. Many viewed this technology as a means by which to effectively ameliorate the educational funding inequities which have spawned recent litigation in Wyoming. In small rural communities, which often have consolidated school districts, the availability of this technology would provide for economic efficiencies and allow the districts to broaden their curricula.

Librarians stated the need for high speed data transmission availability in order to adequately fulfill their obligations to provide and access information in a timely and efficient manner. This need increases as information availability more and more depends upon the ability to access it in an electronic format.

These advanced technologies have important applications in the medical

field as well. Hospital officials stated the need for these services especially in a state as rural as Wyoming.

Economic development councils and local area chambers of commerce supported deployment of these technologies as a means of fostering economic development. They stated that the availability of these services would assist in attracting businesses to the state.

The Town of Lusk is currently constructing a broadband system within the town limits. This system will be used to foster economic development within the community and implement an automatic meter reading and electricity load control program.

Though the benefits of deploying these types of technology within the state of Wyoming are many, the costs associated with that deployment would be significant given the current antiquated and unacceptable state of Wyoming's telecommunications infrastructure when viewed as a whole. The Commission strongly believes that there is a minimum acceptable level of service to which Wyoming's telecommunications customers are entitled. It appears that telecommunications service within those Wyoming exchanges that are the best continue to improve while those that are among the poorest remain stagnant or decline further. The Commission firmly believes that the entire telecommunications infrastructure within the state of Wyoming must be brought up to a minimum acceptable level before serious discussion of wide scale deployment of the ultra modern technologies may begin.

IV. Conclusions

A Basic Service Standard: Preliminary Conclusions

It has become clear in these hearings that an all-encompassing technological definition of basic service would not be useful; and there are a number of reasons for this. The quality of basic telecommunications service in Wyoming varies widely, even in the same general area of the state. A single-definition technological approach to basic service would lock Wyoming into a straightjacket when services and features are being developed more rapidly than ever before in history. It would ignore the various different solutions to the basic service problem which are appropriate for different needs and different numbers of customers. It would also ignore the fact that some exchanges are starting into the era of modernization with large handicaps while others now have almost finished realizing their vision of fully featured modern service.

For example, Golden West's Wyoming customers enjoy digital switch service through underground cable to the home which will be bolstered this year with a fiber optic link to the company's Hot Springs exchange and another switch software upgrade. They have enjoyed full digital switching and custom calling features since

1980 and now have the full range of CLASS service options. Other services are coming in the near future. To them, basic service is modern, fast, clear, digital, robust and fully featured. On the other hand, the U S WEST line serving the Alva area out of the Hulett exchange is completely full. There is apparently no technological way to provide even a single additional telephone service over the existing Alva lines. Some potential customers of U S WEST who would be served along this line have been waiting for some time for any service whatsoever and may, under a U S WEST plan, have to wait until 1997 even to obtain basic service which would connect them to what is now an obsolete electromechanical switch offering only the most meager list of services. For the people along the Alva line, basic service means having a telephone rather than not having one -- no matter what other things are on the service menu.

Modern basic service requires that the people of Wyoming be served by reliable modern physical plant offering a robust communication service to subscribers with high technical quality, good reliability and actual availability. We are mindful of admonitions that basic service should not be "gold plated" by including every conceivable high speed service in it; but basic service should offer a range of basic services from which the average person, business or industry could select components that allow effective interconnection and interaction with the rest of the North American telecommunications network. Emergency services such as 911 and E911 must be highly reliable, available and accurate. It is not conscionable for such a service to fail because of outmoded plant and facilities. Those with special needs beyond the average, such as schools, libraries, hospitals and more complex businesses, should be able to obtain the data, video and other services they need to do their jobs effectively and efficiently. The costs of the more expensive and esoteric services they require should not be covered as part of basic service, but the capabilities should be reasonably available. In short, modern basic service requires that no one be isolated or handicapped by the communications system. It is too much to ask of a community that it stand idly by and watch jobs, services and development migrate to neighboring areas just because the telecommunications system is outmoded.

Current Basic Service Components: Areas of Concurrence

Having said that a modern basic service definition is technologically something of a moving target, the Commission nevertheless has found areas of wide concurrence about what now should constitute basic telecommunications service in Wyoming. Most of the participants in the information gathering process acknowledged that the public required facilities that could provide the following very basic services:

1. single party service for all who desire to have it,
2. flat rate, and sometimes measured, service,
3. Touch Tone dialing,
4. private branch exchange (PBX) trunks,

5. equal access to competitive long distance carriers,
6. 911 emergency service, including E911 (enhanced emergency service) where available
7. the availability of custom calling features, and
8. 2400 baud transmission rate capability.

Industrial, business and, to a lesser extent, residential customers expressed a desire for facilities that would provide, upon a customer's request, those optional features now generally available only in communities in Wyoming served with modern electronic switches, including:

Multiline Hunting	Call Waiting
Direct Inward Dialing	Call Forwarding
Toll Restriction	Speed Call
Centron/Centrex Service	3-Way Calling
Teenlink	Enhanced Centron Service
IntraCall	Custom Ringing
Digital Connectivity	

Most commenters who addressed the subject also said that they desired service which was dependable, clear (no "noise" or static), not overly subject to the weather and well maintained. We agree that this should be a component of every person's telephone service.

As discussed above, electromechanical switches and older, "noisier" unreliable outside plant do not fit in any definition of basic service. The Commission has concluded this for many years, and the information provided in this proceeding confirms that electromechanical switches are inadequate and should be replaced. They can also be actually dangerous as was amply demonstrated by the serious problems experienced by the City of Newcastle with its 911 emergency service which is supported by a U S WEST electromechanical switch.

Businesses, schools, city and county governments, libraries, private citizens and other intensive use customers expressed the imperative current need, often in smaller communities and rural areas where they are most often lacking, for electronic facilities which would support rapid, accurate and reliable fax and data transmission for business, education and access to information generally. Such facilities could also support sophisticated customer equipment and provide a flexible platform for access to both currently available and future technological innovations, as they may become available. Two-way interactive video and high speed accurate data transfer are hallmarks of this level of service requirement which are common elsewhere in the country but which are unobtainable "luxuries" in parts of Wyoming. Hospitals, schools and libraries, in particular can benefit substantially from such services (or related services such as two-way audio supplemented with one-way video). We cannot in this proceeding say that the most sophisticated services should be part of the definition of basic service. Within the scope of this

proceeding, the Commission further cannot conclude that all toll charges should be eliminated within counties for information access purposes

Our hearings took the Commission into 23 locations throughout the state. It allowed us to examine in detail the characteristics of each telephone exchange serving Wyoming and to obtain comments from the public about the quality of telephone service as it affects their daily lives and businesses. Summaries of these hearings are contained in Appendix A to this report. Our general conclusion is that the independent telephone companies have made an honest and largely successful effort to upgrade and modernize their telecommunications capabilities and to respond to the needs of the people they serve. We have also found that the most notable problem areas in Wyoming are served by U S WEST through old, outmoded switches and outside plant which too often makes its own significant contribution to unreliable or unavailable service. Given the inadequately met and unmet needs of the persons served by these exchanges, U S WEST's plans to upgrade these exchanges are generally inadequate.

Accomplishing the necessary upgrades.

Most local exchange utilities have expedited upgrades and are continuing down this path. In fact, independent telephone companies in Wyoming operate only three electromechanical switches, and those switches are scheduled for replacement in the near future. The track record of the independent telephone companies in Wyoming illustrates a commitment to modern service that appears likely to continue. U S WEST has not demonstrated a similar commitment to modern service. Under a U S WEST plan discussed at the hearings, some needed upgrades would not be accomplished before the turn of the century. This attitude is underscored by other comments and actions of U S WEST which have recently occurred outside of the record of this proceeding. Officials of U S WEST have indicated that the company will have by 1994 completed the upgrade of all central office switches in all 14 of the states in which it serves -- except for Wyoming, which has been singled out and placed on a much delayed schedule -- if any. Further evidence of U S WEST's low level of commitment to Wyoming is the company's recently announced reorganization in which many U S WEST offices and service centers will be closed and others will be downsized. The plan calls for Wyoming to lose forty percent (40%) of its current U S WEST work force.

Information gathered at the public hearings and material filed by the public discloses that the needed upgrades of Wyoming's telecommunications capabilities should be accomplished on a much more realistic and expeditious timetable than that currently planned and presented by U S WEST at the hearings. Too many customers are dissatisfied with the quality of existing service to consider "business as usual" an acceptable strategy. The Commission is mindful that this proceeding has not been a contested case in which rate and upgrade orders could be issued. However, the comprehensive nature of this proceeding has given furnished valuable insights into the problems and strengths of telecommunications service in

Wyoming and the opportunities and challenges to be faced in the future. We therefore conclude that there is additional public interest information that should be developed in this proceeding.

Central Office Switches

All utilities should begin to make strategic plans, including any necessary rate proposals, for upgrading all central office equipment within two years from today to at least the level needed to furnish modern basic service at the level discussed by the Commission in this report. Each local exchange telecommunications utility serving in Wyoming is directed to file with the Commission, within thirty (30) days of this report, a written definitive report on the feasibility of such project and a timetable to achieve such modern basic service. Wyoming's independent telephone companies have converted almost entirely to digital switching, and this has brought many advantages to their customers. Consequently, any utility which believes that no further upgrading needs to be undertaken at this time should report that along with a description of the factors underlying that conclusion. Any utility which believes that the undertaking would be unreasonable in any particular way should include a full explanation of its position in the report. The Commission will thereafter give consideration to initiating further, more formal, proceedings wherever there is a need to develop more information or it appears likely that the provision of needed infrastructure will be too long delayed.

Outside Plant

Effective upgrading of telecommunications service to the basic level discussed in this report requires an expert evaluation of outside plant -- all of the facilities used to transmit telecommunications to and from central office switches. This is a complicated and time-consuming process. All utilities should make definite plans, including any necessary rate proposals, for the upgrade of outside plant facilities on an expedited basis at least to the level required to support modern basic service as discussed above. Each local exchange telecommunications utility serving in Wyoming is directed to file with the Commission, within thirty (30) days of this report, a written informational report on the feasibility of such a plant upgrade and such a timetable. Any utility which believes that no action is now required or that the undertaking is unreasonable in any particular way should include a full explanation of its position in the report. The Commission will thereafter give consideration to initiating further more formal proceedings wherever there is a need to develop more information or it appears likely that the provision of needed infrastructure will be too long delayed.

Held Orders

"Held orders" are those requests for new service or service changes which the utility cannot promptly honor. The Commission has worked with Wyoming telephone utilities to eliminate unreasonable delays in the provision of such

service. Such delays, if allowed to drag on, have been shown in these hearings to stifle economic development and prevent the provision of needed emergency services.

The Commission's position has been, and remains for purposes of this report, that delays in the provision of service should only occur because of the reasonable time required to extend facilities from the utility's closest plant for interconnection of the customer's facilities into the utility's network. There should be no "held orders" because of administrative delay, error, lack of facility capacity, or lack of adequate facilities. Because eliminating held orders so clearly serves the public interest, the Commission believes that it should continue to monitor the held order problem. All local exchange telecommunications utilities are hereby directed to make a written report showing their held order (as that term is defined in Appendix D to this report) history from January 1 to September 1, 1993, and file it with the Commission within sixty (60) days of the date of this report. The report should discuss the steps taken and planned to correct any existing problems in extension of service.

911 and E911 emergency services

This Commission remains concerned that emergency services are sometimes not available and sometimes not adequate for emergency purposes for which they were created. All plans for upgrading of service and other reports requested above from the utilities should contain a specific consideration of 911 and E911 services and how they could be made more useful, available and reliable.

Extended Area Service (EAS)

Several persons in different parts of the state presented requests for EAS (the provision of service between municipalities at basic service rates instead of current toll rates based on a community of interest among the subject municipalities).

EAS is a specialized service that requires the persons in the participating communities to pay special incremental charges to be added onto their authorized basic service rates in order to displace toll service revenues no longer collected from the participating communities. Although the upgrades discussed in this proceeding will enhance the technical ability of the utilities to provide EAS, requests for the service are matters that must be considered separately from this noncontested informational proceeding. Any proposed rate increase for EAS makes such a proceeding a "contested case" as defined by W.S. § 16-3-101 of the Wyoming Administrative Procedure Act. The Commission will therefore develop other proceedings in which the various EAS requests, their costs and potential rates can be reviewed in the appropriate formal contested proceeding. The Commission will give public notice of the opportunity for all persons whose rates and service would be affected by an EAS to appear in public hearings to support, object or otherwise place their representations on the public hearing record which will provide the

evidence upon which the Commission must make its public interest decisions.

U S WEST's proposed sale of certain telephone exchanges

Many persons expressed concern in this informational proceeding about U S WEST's proposals to sell 28 of its telephone exchanges. These sales are contested matters which are still in the process of being investigated for disposition in formal public hearings. The Commission notes that the very real public need to upgrade service to at least the level discussed in this report does not depend in any particular way upon who owns the exchange or who owned it in the past. The dedication to service excellence which is the hallmark of a responsible public utility should motivate vigorous planning and action whether or not the sales agreements are before the Commission. The Commission does not believe that it is reasonable for the potential sales to be an excuse for inaction by the Commission or by anyone else involved in serving the people of Wyoming. The need for upgrades does not depend on the name of the serving utility; and the requirement that a utility provide safe, adequate and reliable service, which includes needed upgrades, does not depend on and is not altered by any exchange sale or sales agreement.

V. Epilogue

The Commission is deeply troubled with regard to the current, overall state of Wyoming's telecommunications infrastructure. While independent telecommunications providers operating within the state are taking great, sustained and successful strides toward the deployment of modern telecommunications facilities, the Commission is gravely disappointed that Wyoming's dominant carrier, U S WEST, is not making similar strides, and apparently has no plans to do so in the near future under its own business as usual plan.

The Commission gathered information about every telephone exchange serving Wyoming during its General Order 67 proceeding. The information we found consistently demonstrated that U S WEST is planning to spend far less money in those exchanges in which customers repeatedly spoke of inadequate service than in exchanges where customers have indicated satisfaction with existing service quality. This situation is, in the Commission's view, inappropriate and unacceptable. The Commission cannot condone the best getting better while the worst remain stagnant or decline further.

Wyoming law confers on the Commission the authority and responsibility to issue Certificates of Public Convenience and Necessity to utility operators consistent with the public interest. In applying for and accepting such a certificate for a given area, a utility operator undertakes the duty and responsibility to provide adequate and reliable service consistent with the public interest in a non-discriminatory manner. Information gathered during the course of the General Order 67 proceedings has given the Commission cause to be concerned that, as Wyoming's dominant telecommunications provider, U S WEST is not fully discharging this

duty in a manner consistent with the public interest.

The General Order 67 proceedings are filled with resounding cries for improved telecommunications service, predominantly from customers of U S WEST. The Commission has heard these cries and, to discharge its duty to the people of Wyoming, must pursue vigorously the goal of obtaining a minimum acceptable level of modern basic service for all. The issuance of this report must therefore not be the conclusion of the Commission's efforts in this regard, but only the beginning. Sustained, aggressive facilities modernization by U S WEST is required in order to remedy the situation. For its part, the Commission pledges to examine every avenue open to it to remedy the situation, to encourage swift and responsible upgrading and to put this period of stagnation behind us.

Throughout the late Spring and Summer, we have heard the voices of people from every part of Wyoming talking about the challenges they face in dealing with and in living with their telecommunications problems. If the Commission, all of the telephone providers in Wyoming, and all of the concerned officials and citizens work together, we can solve the problem and see that it never occurs again.

Issued at Cheyenne, Wyoming, this 24th day of September, 1993.

WYOMING PUBLIC SERVICE COMMISSION

Bil Tucker

BIL TUCKER, Chairman

John R. Smyth

JOHN R. SMYTH, Deputy Chairman

Steve Ellenbecker

STEVE ELLENBECKER, Commissioner



Stephen M. Oxley
STEPHEN M. OXLEY, Administrator

Hearing and Other Information: All Wyoming Exchanges

Afton	6
Albin	50
Alpine (including Freedom, Thayne, Bedford, and Etna)	7
Alta	14
Alzada	63
Arvada	68
Basin	15
Big Piney (see Pinedale)	8
Boulder (see Pinedale)	8
Buffalo	71
Burlington	16
Burns	51
Carpenter	52
Casper	17
Cheyenne	85
Chugwater	60
Clark	19
Clearmont	72
Cody	20
Cokeville	5
Daniel (see Pinedale)	8
Dayton-Ranchester	73
Decker	74
Douglas	47
Dubois	22
Edgemont	80
Evanston	41
Farson/Eden	88
Frannie	23
Gas Hills	24
Gillette	69
Glendo	61
Glenrock	48
Green River	42
Greybull	25
Guernsey	55
Hamilton Dome	26
Hulett (including New Haven)	64
Hyattville	27
Jackson (including Moose)	12
Jeffrey City	28
Kaycee	75
Kemmerer	3
La Barge	4
LaGrange	56
Lander	29
Laramie (and Rock River)	43
Lingle	57
Lovell	30
Lusk	49
Lyman, Nebraska (serving 65 Customers in West Lyman, Wyoming)	58
Lyman, Wyoming	86
Meeteetse	31
Midwest	32
Moorcroft	65
Mountain View	87
Newcastle	81
Osage	83
Pine Bluffs	53

Pinedale (including Daniel, Boulder and Big Piney)	8
Powell	33
Rawlins	45
Riverton	34
Rock Springs	42
Sheridan	76
Shoshoni	36
Southeast Sheridan	78
Story	79
Sundance	66
Ten Sleep	37
Thermopolis	38
Torrington	59
Upton	84
Wheatland	62
Worland	39
Wright	70
Yellowstone Park (and Lake, Mammoth and Old Faithful)	13

NOTE ON INTEROFFICE FACILITIES:

For each exchange summary in this appendix in which **Interoffice Facilities** are described only by type (i.e., "Analog", "Digital", etc.), please see the listing for that exchange in Appendix B (US WEST) or Appendix C (independent telephone companies) for a description of the actual interoffice facilities serving that exchange.